

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027323**Date Inspected:** 15-Mar-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

CWI Name:	Bernie Docena and Fred Von Hoff			CWI Present:	Yes	No
Inspected CWI report:	Yes	No	N/A	Rod Oven in Use:	Yes	No N/A
Electrode to specification:	Yes	No	N/A	Weld Procedures Followed:	Yes	No N/A
Qualified Welders:	Yes	No	N/A	Verified Joint Fit-up:	Yes	No N/A
Approved Drawings:	Yes	No	N/A	Approved WPS:	Yes	No N/A
				Delayed / Cancelled:	Yes	No N/A
Bridge No:	34-0006			Component:	SAS Tower	

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At Tower Base 9 meter outer West external diaphragm, this QA Inspector randomly observed ABF personnel Wai Kitlai perform 4F (overhead position) fillet production welding on the C10 channel to 45mm thick diaphragm plate fillet weld joint W098-3. The welder was noted welding 6mm fillet between one side of the channel top flange and diaphragm plate per detail 1 of the ZPMC drawing number FW3. The welder was using the 1/8" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-F1200A. This QA Inspector observed ABF personnel using propylene gas torch to preheat the plates being welded prior welding. This QA Inspector observed QC Inspector Bernie Docena using a Fluke infra red temperature gauge to verify the preheat temperature of more than 150°F. This QA Inspector performed a verification of the welding parameters and observed 130 amperes on the 1/8" diameter electrode. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-F1200A. At the end of the shift, the welder has completed the 6mm fillet weld on North side of the outer West diaphragm.

At Tower Base 9 meter outer West external diaphragm, this QA Inspector randomly observed ABF personnel Jin Pei Wang perform 4F (overhead position) fillet production welding on the C10 channel to 45mm thick diaphragm plate fillet weld joint W098-2. The welder was noted welding 6mm fillet between one side of the channel top flange and diaphragm plate per detail 1 of the ZPMC drawing number FW3. The welder was using the 5/32" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS)

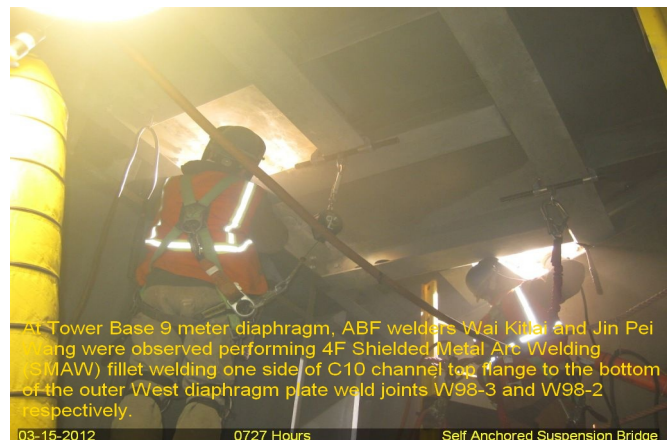
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ABF-WPS-D15-F1200A. This QA Inspector observed ABF personnel using propylene gas torch to preheat the plates being welded prior welding. This QA Inspector observed QC Inspector Bernie Docena using a Fluke infra red temperature gauge to verify the preheat temperature of more than 150°F. This QA Inspector performed a verification of the welding parameters and observed 150 amperes on the 5/32" diameter electrode. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-F1200A. At the end of the shift, the welder has partially completed the 6mm fillet weld on West side of the outer West diaphragm.

At Tower Base 9 meter outer West external diaphragm, this QA Inspector randomly observed ABF personnel Xiao Jian Wan perform 4F (overhead position) fillet production welding on the C10 channel to 45mm thick diaphragm plate fillet weld joint W098-1. The welder was noted welding 6mm fillet between one side of the channel top flange and diaphragm plate per detail 1 of the ZPMC drawing number FW3. The welder was using the 1/8" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-F1200A. This QA Inspector observed ABF personnel using propylene gas torch to preheat the plates being welded prior welding. This QA Inspector observed QC Inspector Bernie Docena using a Fluke infra red temperature gauge to verify the preheat temperature of more than 150°F. This QA Inspector performed a verification of the welding parameters and observed 155 amperes on the 5/32" diameter electrode. The welding appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-F1200A. At the end of the shift, the welder has partially completed the 6mm fillet weld on South side of the outer West diaphragm.

At Tower Base 13 meters diaphragm, weld joint number W127, QA randomly observed ABF certified welder James Zhen ID #6001 continuing to perform 1G (flat position) Submerged Arc Welding (SAW) on the Partial Joint Penetration (PJP) T- joint between the 45mm thick inner North diaphragm and 60mm tower skin plate. The welder was utilizing F7A6-EM12K-H8, 3.2mm electrode with corresponding Esab OK Flux 10.62 flux and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-4062-1. The joint being welded has a 45 degree bevel groove T- joint. The plates were preheated to more than 225 °F using Miller Proheat 35 Induction Heating System with one heater blanket located on top of each plate prior welding and moving it to the side and lifting the other during welding. ABF/QC Fred Von Hoff was noted monitoring the welding parameters of the welder with measured working current of 550 amperes, 32.5 volts with travel speed of 380 mm per minute and calculated heat input of 2.8 Kjoules/mm. QA noted the welding parameters, the workmanship and appearance of the completed fill satisfactory. At the end of the shift, SAW cover pass welding was completed and the welder performed the post weld heat treatment (PWHT) after welding using the same preheat temperature and heating machine and held it for three hours as required.



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At Tower Base 13 meter diaphragm, ABF welder James Zhen was observed performing 1G (flat position) Submerged Arc Welding (SAW) fill pass welding the PJP T-joint diaphragm plate to tower skin plate weld joint W13.7.



Summary of Conversations:

No significant conversation occurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo, Joselito
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Quality Assurance Inspector

Reviewed By:	Levell, Bill
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QA Reviewer
